



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200
Fax 613 632-5246

PRELIMINARY ISSUE

650.7910

Job Sheet 211507



Part No: 650.7910

Job Qty: 3 pcs

Part Name: Shroud



Part Weight: 0 lbs

Status: New

Priority: Medium

Job Created: 7/17/20

Job Tracking No:

Due Date: 7/31/20

Created By: Jennifer Renwick

Type: SOLD

Description:

Note: DWG 650.7910 REV PA1 IPP REV A 20.07.03 NEW ISSUE FK VERIFY DD

Ship Via:

139 Valve

Bill of Materials

Job Routing

Op No	Operation	Qty	Start Date	Due Date	Standard		Workcenter/Supplier	Sign-off
					Setup Hrs	Run Hrs		
100	SL-154 - 1	3 pcs	7/24/20	7/24/20	1.00	1.00	SL-154 - 1	SL 20-7-25
110	QC 2	3 pcs	7/24/20	7/24/20	0.00	0.00	QC 2 - 1	
							QC 2 - 12	
							QC 2 - 14	
							QC 2 - 17	
							QC 2 - 19	
							QC 2 - 2	
							QC 2 - 20	
							QC 2 - 22	
							QC 2 - 23	
							QC 2 - 25	SL
							QC 2 - 32	
							QC 2 - 33	
							QC 2 - 35	
							QC 2 - 39	
							QC 2 - 4	
							QC 2 - 40	
							QC 2 - 44	
							QC 2 - 45	
							QC 2 - 48	
							QC 2 - 49	
							QC 2 - 50	
							QC 2 - 51	
							QC 2 - 52	
							QC 2 - 57	
							QC 2 - 62	
							QC 2 - 63	
							QC 2 - 8	
							QC 2 - 66	
							QC 2 - 64	
							QC 2 - 65	

Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
CANADA
TEL.: 1 813 632-5200
Email: sales@dartaero.com
www.dartaerospace.com



Container No: S290138



Part: 650.7910

Job No: 211507

Serial No/Batch: S290138

Revision: REV - PA1

Inspector:

Exp Date:

Instructions:

Date: 07/25/20

Plex 7/17/20 3:30 PM Dart.Renwick.Jennifer

120	QC 8	3 pcs	7/24/20	0.00 0.00	QC 2 - 5	
					QC 2 - 71	
					QC 2 - 73	
					QC 2 - 69	
					QC 2 - 76	
					QC 2 - 86	
					QC 2 - 83	
					QC 8 - 12	
					QC 8 - 14	mk 20/07/28
					QC 8 - 17	
					QC 8 - 20	
					QC 8 - 25	
					QC 8 - 3	
					QC 8 - 32	
					QC 8 - 33	
					QC 8 - 35	
					QC 8 - 39	
					QC 8 - 4	
					QC 8 - 44	
					QC 8 - 45	
					QC 8 - 49	
					QC 8 - 58	
					QC 8 - 8	
					QC 8 - 9	
					QC 8 - 68	
					QC 8 - 67	
					QC 8 - 1 (A)	
					QC 8 - 47	
					QC 8 - 40	
					QC 8 - 52	
					QC 8 - 23	
					QC 8 - 57	
					QC 8 - 76	
					QC 8 - 61	
					QC 8 - 66	
					QC 8 - 73	
					QC 8 - 82	
130	Outsource - 17 - Passivate	3 pcs	7/31/20		GRO002-VC	5
140	Packaging 2-1 - Receive - B4B	3 pcs	7/31/20	0.00 0.00	Packaging 2 - 1 - B4B	
					Packaging 2 - 2 - B4B	
					Packaging 2 - 3 - B4B	
					Packaging 2 - 5 - B4B	K AUG 06 2020
					Packaging 2 - 4 - B4B	
					Packaging 2 - 6 - B4B	
					Packaging 2 - 7 - B4B	
					Packaging 2 - 8 - B4B	
					Packaging 2 - 9 - B4B	
					Packaging 2 - 10 - B4B	
					Packaging 2 - 11 - B4B	
					Packaging 2 - 12 - B4B	
					Packaging 2 - 13 - B4B	
					Packaging 2 - 14 - B4B	
					Packaging 2 - 15 - B4B	
					Packaging 2 - 16 - B4B	
					Packaging 2 - 17 - B4B	
					Packaging 2 - 18 - B4B	
					Packaging 2 - 19 - B4B	
					Packaging 2 - 20 - B4B	
					Packaging 2 - 21 - B4B	

150 QC 6	3 pcs	7/31/20	0.00 0.00	Packaging 2 - 22 - B4B	
				Packaging 2 - 23 - B4B	
				Packaging 2 - 24 - B4B	
				Packaging 2 - 25 - B4B	
				Packaging 2 - 26 - B4B	
				Packaging 2 - 37 - B4B	
				QC 6 - 9	
160 Packaging 3-1 - Stock - B4B	3 pcs	7/31/20	0.00 0.00	QC 6 - 68	
				QC 6 - 61	
				QC 6 - 40	
				QC 6 - 81	
				QC 6 - 82	
				Packaging 3 - 1 - B4B	
				Packaging 3 - 2 - B4B	
170 QC 21 - SA	3 pcs	7/31/20	0.00 0.00	Packaging 3 - 3 - B4B	
				Packaging 3 - 4 - B4B	
				Packaging 3 - 5 - B4B	
				Packaging 3 - 6 - B4B	
				Packaging 3 - 7 - B4B	
				Packaging 3 - 8 - B4B	
				Packaging 3 - 9 - B4B	
				Packaging 3 - 10 - B4B	
				Packaging 3 - 11 - B4B	
				Packaging 3 - 12 - B4B	
				Packaging 3 - 13 - B4B	
				Packaging 3 - 14 - B4B	
				Packaging 3 - 15 - B4B	
				Packaging 3 - 16 - B4B	
				Packaging 3 - 17 - B4B	
				Packaging 3 - 18 - B4B	
				Packaging 3 - 19 - B4B	
				Packaging 3 - 20 - B4B	
				Packaging 3 - 21 - B4B	
				Packaging 3 - 22 - B4B	
				Packaging 3 - 23 - B4B	
				Packaging 3 - 24 - B4B	
				Packaging 3 - 25 - B4B	
				Packaging 3 - 26 - B4B	
				Packaging 3 - 37 - B4B	
170 QC 21 - SA	3 pcs	7/31/20	0.00 0.00	QC 21 - SA - 21	
				QC 21 - SA - 70	
				QC 21 - SA - 9	

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Part Op 100 - ***CRITICAL PART - EXTREME CARE MUST BE TAKEN*** MUST ENSURE THE COMPONENTS ARE
 Descriptions: NEVER DAMAGED**** 1-Machine as per folio FD323 FOLIO REV: AA DWG REV: 9A1 2-Debur
 110 - QC2- Inspect parts off machine FAI/FAIB
 120 - QC8- Inspect parts - second check
 130 - -Issue P/O; 46807 PASSIVATE IAW QQ-P-35C, TYPE II -Material type; 303 stainless steel -Certificate of
 Conformity is required
 140 - Certificate of Conformity is required
 150 - QC6- All purchased or subcontracted products
 160 - Identify as per dwg & Stock
 170 - QC21- Final Inspection - Work Order Release

Job BOM

Part / Item	Component Name	Quantity	Operation	Container
M303R0.750	303 Round Bar 0.750	.7410 ft (.247 ea)	100-SL-154 - 1	S281599

Job Allocations

Operation	Component Part	Required	Inventory	Allocated
100-SL-154 - 1	M303R0.750	1	5	0

Part Specifications	
Specifications could not be found.	

Plex 7/17/20 3:30 PM Dart.Renwick.Jennifer

REV.	DESCRIPTION	DATE	APPROVED
1	INITIAL RELEASE	04/26/2014	P. BLANCO
2	INCORPORATED ECH 00085	04/26/2015	P. BLANCO

QTY	DESCRIPTION	NATL	SPEC.
650.5300	SHROUD		

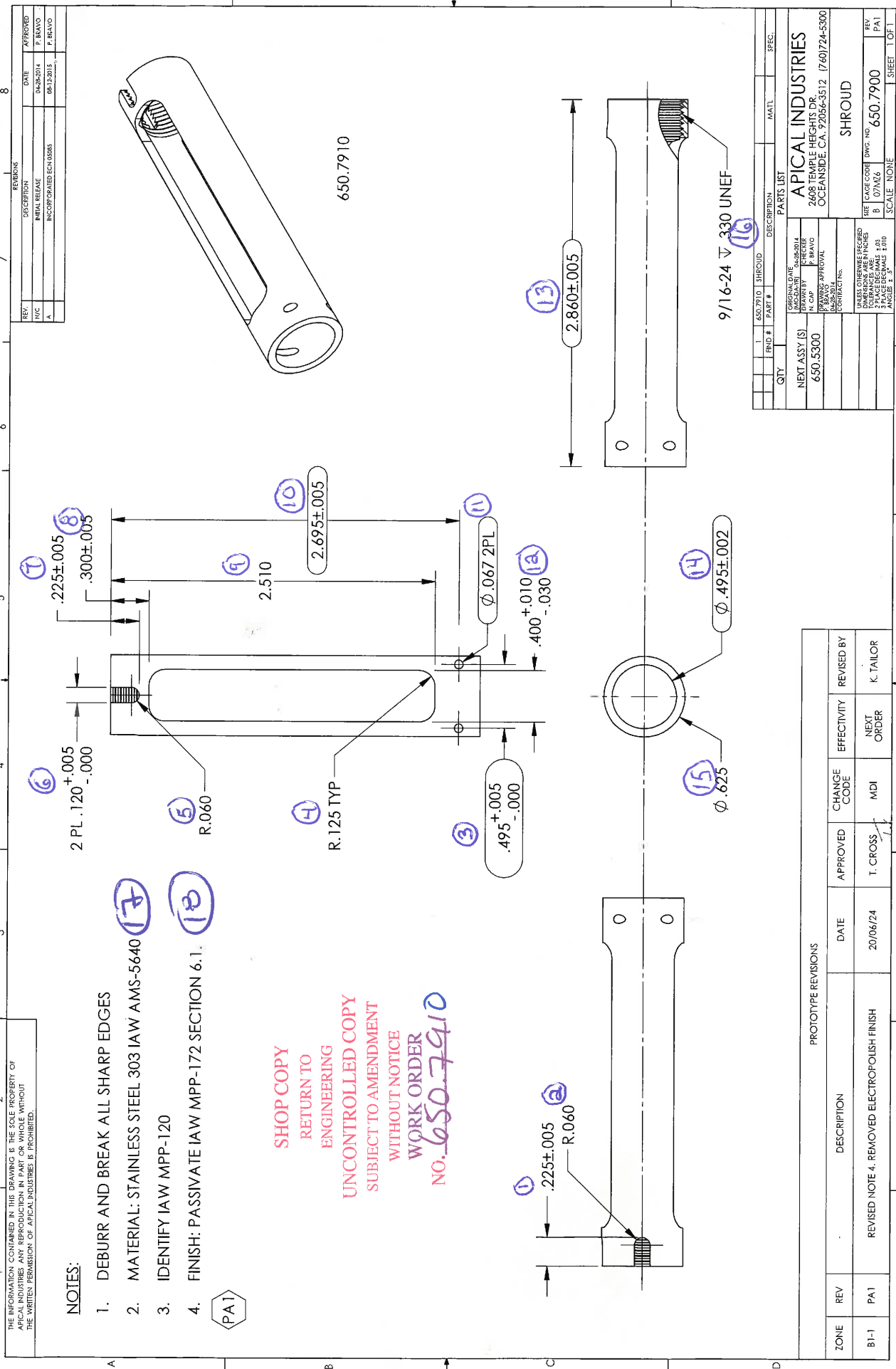
ZONE	REV	DESCRIPTION	DATE	APPROVED	EFFECTIVITY	REVISOR
B1-1	PA1	REVISED NOTE 4. REMOVED ELECTROPOLISH FINISH	20/06/24	T. CROSS	MDI	K. TAILOR

NOTES:

1. DEBURR AND BREAK ALL SHARP EDGES
2. MATERIAL: STAINLESS STEEL 303 1AW AMS-5640
3. IDENTIFY 1AW MPP-120
4. FINISH: PASSIVATE 1AW MPP-172 SECTION 6.1.

PA1

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 650.7910



QTY	DESCRIPTION	NATL	SPEC.
650.5300	SHROUD		

ORIGINAL DATE	MODIFIED DATE	REVISION	REVISION
04/26/2014	04/26/2014	1	1

APICAL INDUSTRIES	2408 TEMPLE HEIGHTS DR.	OCEANSIDE, CA 92056-3512	(760) 724-5300
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REV	CAGE CODE	DWG. NO.	REV
B	07M26	650.7900	PA1

SCALE	NONE
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Entered: _____ Date: _____

WORK ORDER NON-CONFORMANCE / ROUTE UPDATE

NCR No.

Route update only

Job: _____ Part No. _____		DISPOSITION		DEPARTMENT/PROCESS															
Date : _____		Sequence #:		Rework Scrap Use-as-is		Skid-tube Machining Large Fab		Cross tube Small Fab Finishing		Eng. (Non-AW) Prod. Eng. Coord. Rec/Store/Packaging		Engineering Water Jet Supplier Quality							
Description Work Order Deviation				Disposition															
														Completed By					
														Lead hand / Supervisor					
														QC / QA Coordinator					
Root Cause				FAULT CATEGORY															
Operator Manufacturing Process Equip/Tooling Handling/Preservation Material Product Improvement Process Improvement Human Factors				Pressure/Forced		Contamination		Power Loss/Surge		Positioned Wrong									
				Bending		Misaligned/off center		Folio/Program		Outside Tolerance									
				Crushing		BOM/Route		Grain Direction		Drawing									
				Cracks		Broken/Damage/Defect		Weld		Finish									
				Crimp/Kink/Ripple/Wave/Twist		Incomplete/Unclear Instructions		Wrong Stock Pulled		Part Lost/Missing									
				Marks/Chatter		Drill Holes		Out of Sequence		Misread									
				Mislabeled		Fit/Function		Off-set/Set-up											
				Other/Details:															

DART AEROSPACE LTD

Work Order:	211507
Part Number:	650.7910
Page 1 of 1	

Description: SHROUD	Rev: PA1
Inspection Dwg: 650.7900	

INSPECTION SHEET

	Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
1	.225	+/- .005	.223	✓		H-G	
2	R.060	+/- .01	R.060	✓		R-G	
3	.495	+ .005/-0.0	.496	✓		VERN	SL-2
4	R.125	+/- .01	R.125	✓		R-G	
5	R.060	+/- .01	R.060	✓		-	
6	.120	+ .005/-0.0	.122	✓		VERN + G-PIN	SL-2
7	.225	+/- .005	.223	✓		H-G	
8	.300	+/- .005	.297	✓		VERN	SL-2
9	2.510	+/- .010	2.508	✓		H-G	
10	2.695	+/- .005	2.695	✓		VERN	SL-2
11	Ø.067	+/- .005	.067	✓		-	
12	.400	+ .01/- .030	.400	✓		-	
13	2.860	+/- .005	2.858	✓		-	
14	.495	+/- .002	.496	✓		-	
15	.625	+/- .010	.626	✓		-	
16	9/16-24 UNEF-2B			✓		go-no go	
	MINOR Ø: .5223	+/- .0049	.520	✓		go-no go	
	.330 deep		.330	✓		VERN	SL-2
17	303 AMS-5640		303 AMS-5640	✓			
18	PASSIVATE		PASSIVATE	✓		C OFC ALTECH	ATG

Measured by: JL	Checked by: [Signature]	QC Inspector: [Signature]
Date: 20-7-25	Date: 20/07/28	Date: AUG 25 2020

Engineering Approval: (If necessary)	Date:
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Rev	Date	Change	Revised by	Approved
A	26-Jul-20	New Issue	MG	



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

PURCHASE ORDER

POHB046807



Supplier: GRO002-VC
Group Altech
2455 Halpern
St Laurent
QC
H4S 1N9 Canada
Phone: 514-335-3666
Fax: 514-335-3868

Attention: Grenon, Sylvie

Ship To: 1270 Aberdeen Street
Hawkesbury
ON
K6A 1K7 Canada
Phone: 613-632-5200

PO No: POHB046807

PO Date: 7/29/20

Due Date: 8/6/20

**Purchase Order
Revision:**

Revision Date:

Issued By: Guerin, Kimberley
Phone: 613-632-5200 Ext: 298
kguerin@dartaero.com

Via: Ground

Pymt Terms: Net 60

Freight Terms:

Special Comments:

Items

Line Item	Job	Part	Drawing	Description	Status	Account	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
1	211702	654.6513	654.6500 REV.PR2	Diffuser Cap -10 -Issue P/O; PASSIVATE IAW QQ-P-35C, TYPE II -Material type; 303 stainless steel -Certificate of Conformity is required	Firmed X2	-	8/6/20	2 pcs	0 pcs	2 pcs	\$8.3333/pcs	\$16.67
2	211491	650.6515	650.6500 REV.PB2	Extended Gauge Adapter -Issue P/O; PASSIVATE IAW QQ-P-35C, TYPE II -Material type; 303 stainless steel -Certificate of Conformity is required	Firmed X2	-	8/6/20	2 pcs	0 pcs	2 pcs	\$8.3333/pcs	\$16.67



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PURCHASE ORDER

POHB046807



Items

Line Item	Job	Part	Drawing	Description	Status	Account	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
3	211490	650.6513	650.6500 REV.PB2	Thermal Adapter -Issue P/O; PASSIVATE IAW QQ-P-35C, TYPE II -Material type; 303 stainless steel -Certificate of Conformity is required	Firmed - X3		8/6/20	3 pcs	0 pcs	3 pcs	\$8.3333/pcs	\$25.00
4	211507	650.7910	650.7900 REV-PA1	Shroud -Issue P/O; PASSIVATE IAW QQ-P-35C, TYPE II -Material type; 303 stainless steel -Certificate of Conformity is required	Firmed - X3		8/6/20	3 pcs	0 pcs	3 pcs	\$8.3333/pcs	\$25.00
5	210646	650.7710	650.7700 Rev.PF1	Electric Cap -Issue P/O; PASSIVATE IAW QQ-P-35C, TYPE II -Material type; 303 stainless steel -Certificate of Conformity is required	Firmed - X2		8/6/20	2 pcs	0 pcs	2 pcs	\$8.3333/pcs	\$16.67
Grand Total:												\$100.00

Handwritten signature: H. Guerin



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

PURCHASE ORDER

POHB046807



Order Notes

Procurement Quality Clauses

A005 right of entry
A012 chemical and physical test report
A016 personnel qualification
A017 raw material identification (as applicable)

A022 Apical Processing
A024 process certifications
A026 certification of material conformance

A041 quality management system
A042 dart notification by supplier
A043 retention of quality documents

A048 counterfeit parts avoidance, detection, mitigation and disposition program

A049 supplier awareness

Terms & Condition of Purchasing(Suppliers) and Procurement Quality Clauses are an integral part of our AS9100 requirements. To learn in detail, please visit www.dartaerospace.com for further explanation.

Plex 7/30/20 1:09 PM Dart.Guerin.Kimberley



Certificat de Conformité / Certificate of Compliance



2455, Rue Halpern | Saint-Laurent | Québec | H4S 1N9
 Tel: 514-335-3666 Fax: 514-335-3868
 www.groupaltech.com

Bon de Livraison / Packing Slip

029928 - 1

Livré à / Ship to

DART AEROSPACE LTD
 1270 ABERDEEN STREET
 HAWKESBURY, ON, K6A1K7
 CANADA
 Tel.: 613-632-5200 Fax.:

Client / Customer:

DART AEROSPACE LTD
 1270 ABERDEEN STREET
 HAWKESBURY, ON, K6A1K7
 CANADA
 BUYER:

Date expédition Ship date		Créé Par Generated By		Transport / No de Compte Courier / Acc. No.		Bon de commande Client Customer Purchase Order No.			
31-Jul-2020		Ian Wilson				POHB046807			
#Ligne Line#	No. de Série / # Pièce Part Number /Line Item Details Job # / Ref #	Description pièce(s)	CATG. U/M	Comm. /Ordered	Exp/ Shipped	Qté NC/ NC Qty	Qté Scrap/	À venir/ Back Order	
1	654.6513 Rev.	654.6513 01 -PASSIVATION-NITRIC #4 [PASSIVATION NITRIC #4] QQ-P-35C, TYPE II	PASSIVATION CH	2	2	0	0	0	
2	650.6515 Rev.	650.6515 01 -PASSIVATION-NITRIC #4 [PASSIVATION NITRIC #4] QQ-P-35C, TYPE II	PASSIVATION CH	2	2	0	0	0	
3	650.6513 Rev.	650.6513 01 -PASSIVATION-NITRIC #4 [PASSIVATION NITRIC #4] QQ-P-35C, TYPE II	PASSIVATION CH	3	3	0	0	0	
4	650.7910 Rev.	650.7910 01 -PASSIVATION-NITRIC #4 [PASSIVATION NITRIC #4] QQ-P-35C, TYPE II	PASSIVATION CH	3	3	0	0	0	
5	650.7710 Rev.	650.7710 01 -PASSIVATION-NITRIC #4 [PASSIVATION NITRIC #4] QQ-P-35C, TYPE II	PASSIVATION CH	2	2	0	0	0	

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Notes Additionnelles / Additional Notes

Epaisseur réelle
Actual Thickness

Inspecteur Qualité
Quality Inspector

Réçu par
Received By

Nous certifions que les pièces énumérées ci-dessus ont été traitées en conformité avec votre commande et vos spécifications et rencontrent les exigences.
 Notre responsabilité financière et légale ne sera pas supérieure au montant de la facture issue.

We hereby certify that the parts listed above have been process in accordance with your purchase order and specifications and are in conformance with your requirements.
 Our financial and legal responsibility will not be higher than the amount of invoice.

Excel

thyssenkrupp Materials NA

5281599



thyssenkrupp

thyssenkrupp Materials NA, 4700 chemin du Bois-Franc, Saint-Laurent, QC H4S 1A7

DELIVERY NOTE

DART AEROSPACE LTD
1270 ABERDEEN ST
HAWKESBURY ON K6A 1K7



DATE: 06/02/2020
DOC. NO: 2407533774*
BOL. NO: 2407533774
ORDER NO: 1404525653
YOUR P/O: POHBO46506
CUSTOMER NO: 10058125
Route: 303-A
CONTACT: Lucy Truglio
TEL:
FAX:
EMAIL: lucy.truglio@thyssenkrupp.co
m

**MILL TEST REPORTS, PACKING SLIPS ARE TO SENT
WITH MATERIAL AND FAXED TO THE CUSTOMER PRIOR
TO SHIPPING.**

ATTN: CHANTAL/LINDA

**** ALL PACKING SLIPS MUST HAVE THE HEAT NUMBER **
** REFERENCED ON IT ****

Deliveries are carried out for your account and risk acc. to our Gen. Terms & Cond. of Delivery and Payment.

ITEM	DESCRIPTION	NET QTY1	QTY2	PACKAG
------	-------------	----------	------	--------

0010 NAS / DFARS

ASTM A582

R/L 144" - 146"

SSRD000076

T 303 Stainless Steel Round

9.7500 (+-.002) X 144 Mill Length

Actual Chemistry/Act. Physical

Standard Packaging

**CERTS MUST INCLUDE TENSILE, YIELD, ELONGATION,
AND REDUCTION OF AREA**

DAS
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4 PC
72
lb

1011002928

TAGNUM	QTY	UOM	VEND	VENDPO	HLDT	PCS	COM
2001745742	4	PC	NORTH AME	5400483276	F22R/BL0097 0	4	
SAE AMS 5640[V]; ROHS COMPLIANT; ASTM A 484/A 484M 2018; ASTM A 582/A 582M 2012							

Total Gross Weight

74.000 lb

All items, not declared as partial delivery, are final quantities.
Delivery Terms: PPD gem. Incoterms 2000 Prepaid PREPAID

RECEIVED

JUN 05 2020

DART AEROSPACE LTD.



North American Stainless Canada Inc
740 Imperial Road North
Guelph, ON N1K1Z3
Canada

METALLURGICAL TEST REPORT

6870 Highway 42 East
Chenai, KY 41045-9615
(502) 347-6000

Certificate: 587421 3 Mail To: TRUSSKORP MATERIALS CA LTD 7400 CHEMIN DU BOIS FRANCO SAINT LAURENT, QC H4S 1A7 Date: 3/18/2020 Page: 1
Customer: 007205 001 4700 CHEMIN DU BOIS FRANCO SAINT LAURENT, QC H4S 1A7 Steel: 303
Finish: CD
Corrosion:

Your Order: 5400483276 NAS Order: PN 0113141 01 Heat Treat Code: 57,907

PRODUCT DESCRIPTION:

ROUND BAR, 316L/316Ti, Cold Draw
UNS 30300, ASTM A582, EN 10204 3.1, ASTM A484/19
AMS 5640V, NFE 1, 005-7648 CONDITION A
SOLUTION ANNEAL TEMP 1900F MIN, ASTM F899/12H

REMARKS:

COMPLIES W/REQUIREMENTS OF DPAR 252.225-7009 EU DIRECTIVE
2011/65/EU ROHS. EAF+AOD+CC. NO WELD REPAIR. MELTED AND NEG
IN USA FREE FROM MERCURY AND LOW MELTING ALLOY CONTAMINATION

Product Id	Skid #	Diameter	Size	Weight	Length	Mark	Pieces	Commodity Code
SL0097 0		.7500		1,203	144.00	1	1	

CHEMICAL ANALYSIS

CM(Country of Met) ES(Spain) US(United States) ZA(South Africa) JP(Japan)

ANDE, ISO/IEC 17025, Certificate# E2323
Chemical Analysis per ASTM A751/14a

Element	CM	C %	CO %	CR %	CU %	MN %	MO %	N %	NI %	P %
22R	US	.030	.27	17.19	.29	1.57	.334	.039	8.55	.028
S %			St %							
		.3195	.42							

MECHANICAL PROPERTIES

Product Id	1 d 0.1 c =	EB No.	.2YS KSI	UTS KSI	RA %	Elong % 4D
SL0097 0	RI	201.0	78.71	105.02	34.23	27.30

NAS hereby certifies that the analysis on this certification is correct. Based upon the results and the accuracy of the test methods used, the material meets the specifications stated. These results relate only to the items tested and this report cannot be reproduced, except in its entirety, without the written approval of NAS.

Technical
Dept. Mgr.

KRIS LARR

3/18/2020

From: TK Materials CA, Ltd.

Cust. DART AEROSPACE LTD

CstAr

Wgt.: 72 LB

Del.: 2407533774

CstOr POHB046506

Date 05/29/2020

Tomas Sanchez